REGULARITIES OF MODIFICATIONAL VARIABILITY OF QUANTITATIVE CHARACTERS IN SOYBEAN

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Twenty one quantitative characters were studied in twenty Soybean varieties and nine hybrid populations in Krasnodar (USSR, 45° North Latitude) and Maha Illuppallama (Sri Lanka, 8° North Latitude) in 1974 — 1978. This paper deals with the regularities of the environmental component (modificational variability) of phenotypical variability.

Modificational variability of the identical character fluctuated within a narrow range among contrasting varieties, seasons and locations. The degree of modificational variability was very low ($CV_m < 8\%$) for seed oil percentage, low (CV_m 8 — 12%) for plant height, Internode length, node number on main stem, seed number per pod and 100 seed weight, medium (CV_m 12 — 20%) for yield index and pod number per podding site and high ($CV_m > 20\%$) for thirteen other complex characters including seed weight per plant.

The identification of genotypical differences in heterogeneous populations for phenotypically stable characters (Low CV_m) would be easier. Greater phenotypic stability of yield components when compared to the plant seed yield is also of special significance to the plant breeder.

Highly correlated characters had homologous patterns in modificational variability. Unlike genotypic correlations, correlations computed at the modificational level were highly stable across environments, seasons and populations. Path analysis showed that the direct effects of each of the yield component on seed yield were similar to their respective correlation coefficients due to very low indirect effects.